

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claim 1-2 (canceled)

Claim 3 (currently amended): A chip pick-up method for picking up a chip held on a sheet using a pick-up head, comprising:

a recognition step of recognizing the chip by capturing an image of the chip held on the sheet; positioning step of positioning the chip to be picked up relatively to the pick-up head on the basis of the recognition result in the recognition step;

a sheet separating step of separating the sheet from the chip by sucking the sheet from sucking grooves with boundary zones being kept in contact with a lower surface of the sheet; and

a holding step of holding an upper surface of the chip separated from the sheet using the pick-up head, wherein prior to said recognition step, suction members are moved to be brought into contact with the lower surface of the sheet and the sheet is sucked so that the deformation of the chip held on the sheet is reformed, and wherein said sheet separating step is implemented in a state where said suction members have left the lower surface of said sheet.

Claim 4 (currently amended): A chip pick-up method according to claim 3 A chip pick-up method for

picking up a chip held on a sheet using a pick-up head, comprising;

recognition step of recognizing the chip by capturing an image of the chip held on the sheet;

a positioning step of positioning the chip to be picked up relatively to the pick-up head on the basis of the recognition result in the recognition step;

a sheet separating step of separating the sheet from the chip by sucking the sheet from sucking grooves with boundary zones being kept in contact with a lower surface of the sheet; and

a holding step of holding an upper surface of the chip separated from the sheet using the pick-up head, wherein prior to said recognition step, suction members are moved to be brought into contact with the lower surface of the sheet and the sheet is sucked so that the deformation of the chip held on the sheet is reformed,

wherein said sheet separating step is implemented in a state where said suction members have left the lower surface of said sheet, and

in said sheet separating step, said chip is supported through the sheet by said boundary zones each of which separates the sucking grooves adjacent to each other.

Claim 5 (currently amended): A chip pick-up apparatus comprising:

a pick-up head for picking up a chip held on a sheet;

a holding table for holding the sheet;

a recognition means for recognizing the chip by capturing an image of the chip held on said sheet;

a positioning means for positioning the chip to be picked up relatively to said pick-up head on the basis of the recognition result by said recognition means; and

a sheet separating mechanism for separating the sheet from the chip by sucking the sheet from a suction plane brought in contact with the lower surface of the sheet in a state where suction members have left the lower surface of the sheet and where boundary zones separated by sucking grooves support the chip, said sheet separating mechanism being arranged below said holding table, wherein said sheet separating mechanism includes:

a reforming means for reforming deformation of said chip in contact with the lower surface of said sheet; and

a separating means for separating the sheet from the chip by deforming said chip.

Claim 6 (currently amended): A chip pick-up method for picking up a chip held on a sheet using a pick-up head, comprising:

a recognition step of recognizing the chip by capturing an image of the chip held on the sheet;

a positioning step of positioning the chip to be picked up relatively to the pick-up head on the basis of the recognition result in the recognition step;

a sheet separating step of separating the sheet from the chip by sucking the sheet from sucking

grooves, with boundary zones being kept in contact with a lower surface of the sheet; and

a holding step of holding an upper surface of the chip separated from the sheet using the pick-up head, wherein prior to said recognition step, deformation of said chip held on the sheet is reformed, and in the sheet separating step, said chip is deformed to peel the sheet from the chip, wherein said sheet separating step is implemented in a state where suction members have left the lower surface of said sheet.